



Climate change and the management of fire-prone vegetation in Southwest and Southeast Australia

Author(s): Enright NJ, Fontaine JB
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Abstract:

Mediterranean regions worldwide, and southwest (SW) Australia in particular, are characterised by their high plant biodiversity, fire-prone vegetation, and substantial conservation challenges in relation to human land use, expanding populations and changing climate. Recent climate change is evident in SW Australia, with markedly decreasing rainfall and increasing temperatures since the 1970s. Fire management in SW Australia, historically focused in the southern forests, but now also engaged with a rapidly expanding wildland-urban interface, is faced with the formidable challenge of increased fire likelihoods due to increased fire danger weather under a warming climate, and more human-caused ignitions as population growth proceeds. Here, we review key components of the fire-environment relationship, the use of fuel reduction burning as a wildfire mitigation strategy, and the potential impacts of changing climate on fire regimes and fire management in the SW, including ecological impacts. We draw comparisons between SW and southeastern (SE) Australia, contrasting the recent history of fire in these two regions, how they differ, and how this helps us to understand the circumstances under which planned fire may be an effective approach to fire hazard mitigation in SW Australia. Evidence suggests that fuel reduction burning in wildlands produces little benefit for wildfire control. While wildfire sizes differ between regions, a concentration of resources and fire management near human infrastructure and not in wildlands seems warranted with increasing emphasis on fire suppression and fuels management.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Extreme Weather Event, Temperature

Extreme Weather Event: Drought, Wildfires

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Rural

Climate Change and Human Health Literature Portal

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Australasia

Health Impact:

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Intervention:

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type:

format or standard characteristic of resource

Review

Timescale:

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content